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MEMORANDUM

To : Edward P. Marron, Jr.
Building Inspector

From : George E. Pommer, P.E.
Project Manager

Date : March 3, 2011

Subject : Retention System Requirements for Small Additions
Village of Irvington

As requested, we are providing recommendations for retention system design of new impervious areas less than or equal to 400 square feet.

The design recommended is proposed to eliminate the requirement of deep test pits and percolation tests for small projects. The goal is to releave the residents of burdensome testing, while maintaining adequate drainage for the Village. These recommendations are for small projects only, where the addition of impervious surface is less than or equal to 400 square feet. The Village Code, the NYS Stormwater Design Manual, and Westchester County Best Management Practice Manual should continue to be followed for all other projects.

Based on our knowledge and experience, please accept the following design as the minimum design required for applicants with small projects as described above.

1. The entire runoff volume should be calculated as shown below. The volume should be stored below the emergency overflow elevation.

Additions up to 400 sf

Runoff depth, d = 0.358 feet (4.3 inches)[1]

Area, A = entire area that drains to retention system (cubic feet)

Required Storage Volume, V = A x d

Additions/Renovation With No Additional Impervious Area

Runoff depth, d = 0.358 feet (4.3 inches)[1]

Area, A = entire area that drains to retention system (cubic feet)

Required Storage Volume, V = 0.50 x A x d

2. An emergency overflow must be provided.
3. The following typical details should be provided:
    a. A section(s) of the retention system(s) which includes the unit(s) material, ¾ inch stone, geotextile fabric, and emergency overflow. The emergency overflow may be an overflow outlet, surge pipe with splash block, etc.
    b. Access manhole(s) with an opening a minimum of 24 inches.
    c. Pretreatment system.
    d. Cleanout port(s).

If, during the installation of the retention system, groundwater or rock is encountered, the Village must be contacted immediately.

If you have any questions or concerns, please contact me at your earliest convenience.

GEP:DH:tw
Enclosure
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[1] Runoff depth derived from TR-55 method. Values used are shown below:
100 year storm event (7.5 inches)
CN(Pre) – 60 (2.96 inches) [B Soil, grass cover >75%]
CN(Post)- 98 (7.26 inches) [Impervious]
Depth = 7.26-2.96 = 4.30 inches